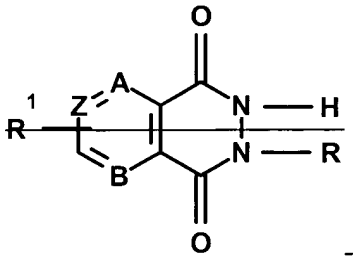
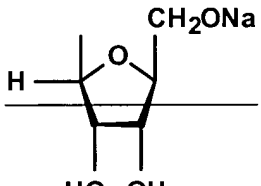
AMENDMENTS TO THE CLAIMS

Please AMEND the claims as follows:

1. (Currently Amended) ~~Use of cyclic bioisosteres of a purine system derivatives~~ A method of treating diseases caused by disorders of a nitrergic system and /or dopaminergic system of an organism comprising administering to an organism a compound having a general structural formula:





~~where R= Li, Na, K,~~

~~R^+= H, NH_2, Br, Cl, OH, COOH,~~

~~B = N=, CH=, Z = CH=, N=,~~

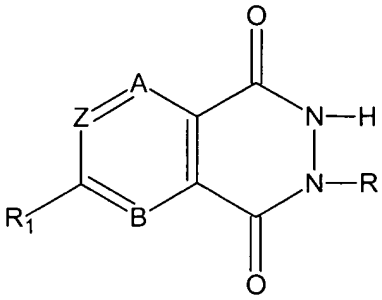
~~A = N= at B = N=, Z = CH=,~~

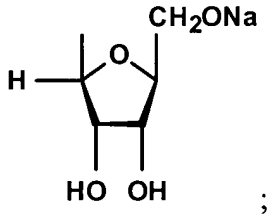
~~A = CH= at B = N=, Z = CH=,~~

~~A = CH= at B = N=, Z = N=,~~

~~A = CH= at B = CH=, Z = CH=,~~

~~A = CH= at B = CH=, Z = N=,~~





where R is selected from the group consisting of Li, Na, K, and ;

R^1 is selected from the group consisting of -H, -NH_2, -Br, -Cl, -OH, and -COOH;

B is selected from the group consisting of –N= and –CR^1=;

Z is selected from the group consisting of –N= and –CR^1=; and

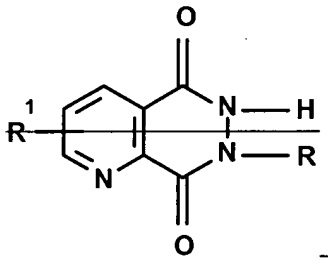
A is selected from the group consisting of –N= and –CR^1=,

with the proviso that when A is –N=, then B is –N= and Z is –CR^1=;

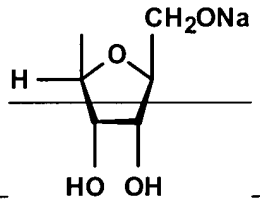
and pharmacologically acceptable salts thereof

~~and their pharmacologically acceptable salts~~ as active ingredients having activity with respect to nitrergic and dopaminergic systems in a pharmaceutically acceptable composition for treatment of diseases caused by disorders of a nitrergic system and /or dopaminergic system of an organism, wherein ~~containing an~~ the active ingredient is present in a pharmaceutically acceptable carrier in an amount sufficient for effecting said systems ~~in pharmacologically acceptable carrier~~.

2. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is a derivative of pyrido[2,3-d]-6H-pyridazine-5,8-dione, having a general formula:

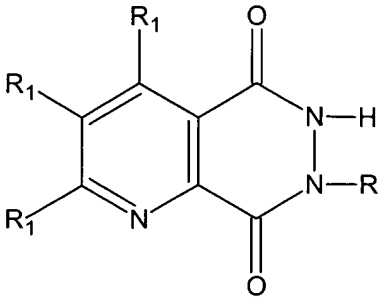


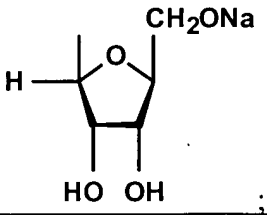
~~where R=~~



~~atom Li, Na, K,~~

~~R^1= H, NH_2, Br, OH, COOH.~~





where R is selected from the group consisting of Li, Na, K, and ; and

R^1 is selected from the group consisting of -H, $-NH_2$, -Br, -OH, and -COOH.

3. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is selected from the group ~~including~~ consisting of:

sodium salt of 7-(β-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione ~~(1)~~,

sodium salt of 4-amino-7-(β-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione ~~(2)~~,

sodium salt of 3-bromine-7-(β-D-ribofuranosile)pyrido[2,3- d]-6H-pyridazine-5,8-dione ~~(3)~~,

~~isodium~~ disodium salt of 4-hydroxy-7-(β-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione ~~(4)~~,

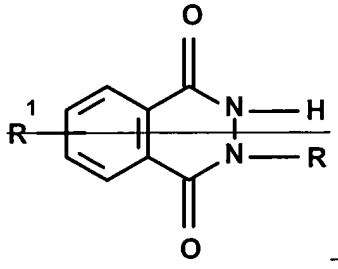
disodium salt of 3-carboxy-7-(β-D-ribofuranosile)pyrido[2,3-d]-6H-pyridazine-5,8-dione ~~(5)~~,

lithium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione ~~(6)~~,

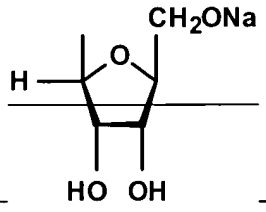
sodium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione ~~(7)~~, and

potassium salt of pyrido [2,3-d]-6H-pyridazine-5,8-dione ~~(8)~~.

4. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is a derivative of benzo[d]-3H- pyridazine-1,4-dione, having a general formula:~~:~~

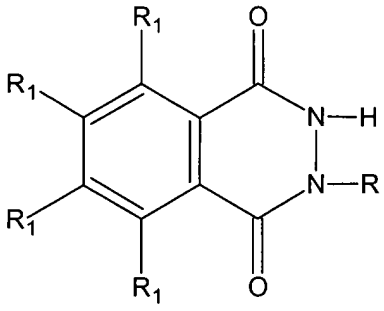


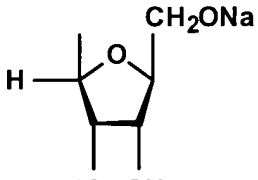
~~where R =~~



~~atom Li, Na, K,~~

~~R^1 = H, NH_2, Cl, OH, COOH.~~





where R is selected from the group consisting of Li, Na, K, and ; and

R^1 is selected from the group consisting of -H, -NH_2, -Cl, -OH, and -COOH.

5. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is selected from the group ~~including~~ consisting of:

sodium salt of 2-(β-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ~~(9)~~,

sodium salt of 5-amino-2-(β-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ~~(10)~~,

sodium salt of 6-amino-2-(β-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ~~(11)~~,

sodium salt of 5-chlorine-2-(β-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ~~(12)~~,

disodium salt of 5-hydroxy-2-(β-D-ribofuranosile)benzo[d]-3H-pyridazine-1,4-dione ~~(13)~~,

lithium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione ~~(14)~~,

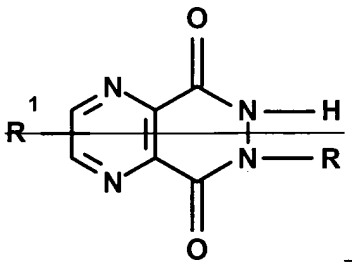
sodium salt of 5-amino-benzo[d]-3H-pyridazine-1,4-dione ~~(15)~~,

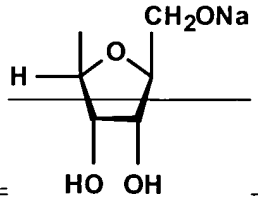
potassium salt of 6-amino-benzo[d]-3H-pyridazine-1,4-dione ~~(16)~~,

disodium salt of 5-hydroxy-benzo[d]-3H-pyridazine-1,4-dione ~~(17)~~, and

disodium salt of 6-carboxy-benzo [d]-3H-pyridazine-1,4-dione ~~(18)~~.

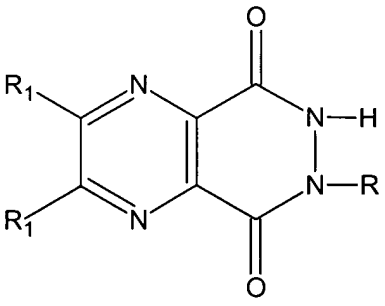
6. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is a derivative pyrazine[2,3-d]-6H-pyridazine-5,8-dione, having a general formula: ÷

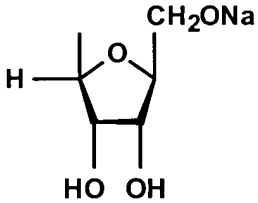




~~where R =~~ ~~atom Li, Na, K,~~

~~R^1 = H, NH_2, Br, OH, COOH.~~





where R is selected from the group consisting of Li, Na, K, and ; and

R^1 is selected from the group consisting of -H, $-NH_2$, -Br, -OH, and -COOH.

7. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is selected from the group ~~including~~ consisting of:

sodium salt of 7-(β-D-ribofuranosile)pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(19)~~,

sodium salt of 2-amino-7-(β-D-ribofuranosile)pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(20)~~,

sodium salt of 3-amino-7-(β-D-ribofuranosile)pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(21)~~,

sodium salt of 3-bromine-7-(β-D-ribofuranosile)pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(22)~~,

disodium salt of 2-hydroxy-7-(β-D-ribofuranosile)pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(23)~~,

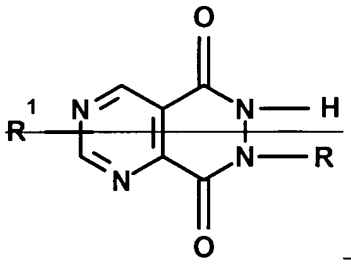
disodium salt of 2-carboxy-7-(β-D-ribofuranosile)pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(24)~~,

lithium salt of pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(25)~~,

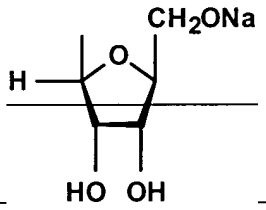
lithium salt of pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(26)~~,

potassium salt of 3-bromine-pyrazino[2,3-d]-6H- pyridazine-5,8-dione ~~(27)~~, and
sodium salt of 2-amino-pyrazino[2,3-d]-6H-pyridazine-5,8-dione ~~(28)~~.

8. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is a derivative of pyrimido[4.5-d]-6H-pyridazine-5,8-dione, having a general formula:

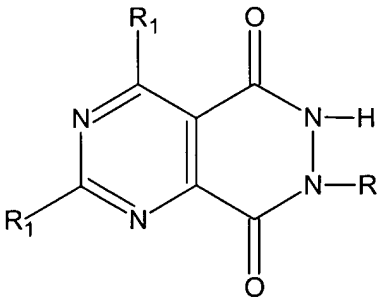


~~where R =~~

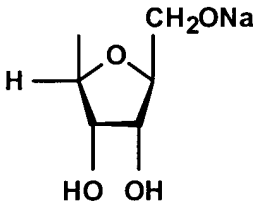


~~atom Li, Na, K,~~

R^1= -H, -NH_2, -Br, -OH, -COOH.



where R is selected from the group consisting of Li, Na, K, and



; and

R^1 is selected from the group consisting of -H, -NH_2, -Br, -OH, and -COOH.

9. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is selected from the group ~~including~~ consisting of:

sodium salt of 7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(29)~~,
sodium salt of 2-amino-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(30)~~,

sodium salt of 4-amino-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(31)~~,
sodium salt of 2-bromine-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(32)~~,
sodium salt of 4-hydroxy-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(33)~~,
sodium salt of 4-carboxy-7-(β-D-ribofuranosile)pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(34)~~,
lithium salt of pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(35)~~,
sodium salt of 2-amino-pyrimido[4,5-d]-6H-pyridazine-5,8-dione ~~(36)~~, and
potassium salt of 4-bromine-pyrimido[4,5-d]-6H-pyridazine –5,8-dione ~~(37)~~.

10. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is used as a neuroprotector ~~in a pharmaceutical composition~~ for protection of ~~a~~ the organism's nervous system.

11. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is used ~~in a pharmaceutical composition~~ for improvement of ~~a~~ cognitive of function and normalization of psychophysiological status.

12. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is used ~~in a pharmaceutical composition of~~ for anxiolytic and antidepressive action.

13. (Currently Amended) ~~Use as claimed in claim. 1,~~ The method according to claim 1, ~~characterized in that~~ wherein the active ingredient is used ~~in a pharmaceutical composition~~ in an effective amount for treatment of the group consisting of mammals and human beings of one or more diseases selected from the group ~~including~~ consisting of disorders caused by drug abuse, ~~such as~~ dependences on narcotics, alcohol and nicotine, insomnia, sexual disorders, ~~including~~ sexual dysfunction, gastro-intestinal disorders, psychoses, affective disorders, inorganic psychoses, personality disorders, psychiatric disorders of mood, schizophrenia and schizoaffective disorders, polydipsia, bipolar disorders, dysphoric mania, anxiety and associated diseases, obesity, bacterial infections of the central nervous system ~~such~~, ~~as~~ meningitis, disorders of learning, disorders of memory, Parkinson's disease, neurodegenerative diseases, ~~for example~~

Alzheimer's disease~~;~~, depression, extrapyramidal side effects of neuroleptics, hypothalamic-pituitary effects, vascular and cardiovascular diseases, dystonia, dyskinesia, hyperkinesis, dementia, ischemia, motion disorders, hypertension, ~~and~~ diseases caused by a hyperactive immune system, ~~such as~~ allergies, and inflammations~~, of mammals and human beings in an amount effective for treatment~~.